

ABSTRACT

A magnetorheological device comprising a housing having a divider within the housing is disclosed and claimed. A rotary impeller having two paddles is rotatably mounted within the housing. The rotary impeller sealingly engages the divider and the paddles in combination with the divider forms a first chamber and a second chamber. Magnetorheological fluid resides in the chambers and a passageway interconnects the first and second chambers. A coil surrounds a portion of the passageway such that when energized the magnetorheological fluid solidifies plugging the passageway. As the impeller rotates, it pushes the incompressible fluid against the divider in the housing and the plug in the passageway and retards and/or stops the motion of the impeller.